

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in this Application.

Listing of Claims

Claim 1 (currently amended): A method to reduce noise between adjacent interior vehicle trim parts in which a first trim part is supported adjacent a second trim part and in which a bead of buffer material is provided between the first and second trim parts to reduce noises produced by contact and relative motion between the first and second trim parts, the method including the steps of:

providing the first and second trim parts, the first trim part having a peripheral mating edge configured to lie adjacent a peripheral mating edge of the second part when the first and second trim parts are supported adjacent one another and wherein said first and second trim parts are not adhered to one another;

forming a recess having an undercut portion in the peripheral mating edge of the first trim part after providing the first trim part, in which the step of forming a recess includes the steps of:

providing a robot operatively connected to a recess-forming tool; and

operating the robot to move the forming tool into and along the mating edge of the first trim part;

~~further comprising the following steps in sequence;~~

providing buffer material in the recess and overfilling said recess, in which the step of providing buffer material includes the steps of:

providing a robot operatively connected to an applicator;

connecting a source of buffer material to the applicator, the buffer material being in fluid communication with the applicator; and

operating the robot to move the applicator in spaced generally parallel relationship with the peripheral mating edge of the first trim part while projecting buffer material into the recess and onto the mating edge of the first trim part; and

allowing said buffer material to harden so as to provide a bead of buffer material on the peripheral mating edge of the first trim part;

allowing the bead to mechanically ~~connect~~ lock to the first trim part by hardening of the buffer material within the recess; and

supporting the first and second trim parts adjacent one another with the second trim part contacting the bead of buffer material such that the bead is compressed between the first and second trim parts wherein the buffer material does not adhere to the second trim part.

Claim 2 (canceled)

Claim 3 (original): The method of claim 1, in which the step of providing buffer material in the recess includes the steps of:

providing an applicator comprising an extrusion head; and

extruding buffer material through the extrusion head.

Claim 4 (original): The method of claim 1 in which the step of providing buffer material includes providing an elastomeric material.

Claim 5 (original): The method of claim 1 in which the step of providing buffer material includes selecting the buffer material from a group consisting of thermoplastic elastomers and thermosetting elastomers.

Claim 6 (original): The method of claim 5 in which the step of providing buffer material includes selecting thermoplastic urethane as a buffer material.

Claim 7-8 (canceled)

Claim 9 (currently amended): The method of claim 8 1 in which the step of providing buffer material includes the steps of:

operatively connecting an applicator to the robot adjacent the recess-forming tool;

connecting a source of buffer material in fluid communication with the applicator;

and

operating the robot to simultaneously move the forming tool into and along the mating edge of the first trim part while moving the applicator in spaced generally parallel relationship with the mating edge and in trailing relationship to the recess-forming tool, the trailing applicator providing buffer material in the recess formed by the preceding forming tool so as to overfill the recess and provide a bead of buffer material on the mating edge of the first trim part.

Claim 10 (original): The method of claim 1 in which the step of forming a recess includes providing a forming tool comprising a router having a router bit configured to form a recess of desired cross sectional shape.

Claim 11 (previously presented): The method of claim 1 including the additional step of locating the second trim part in an opening in the first trim part, the mating edges being an outer peripheral edge of the second trim part and an inner edge of the first trim part surrounding and defining the opening in the first trim part, the additional step following the step of allowing the buffer material to mechanically connect to the first trim part.

Claims 12 (withdrawn): Bead forming apparatus for forming a bead of buffer material on a mating surface of an automotive trim part, the apparatus comprising:

a recess-forming tool configured to form a recess in the mating surface;

an applicator configured to provide buffer material in the recess and to form a bead on the mating surface by overfilling the recess;

a common mount supporting both the recess-forming tool and the applicator; and

a drive operatively connected to the mount and configured to move the recess-forming tool and the applicator simultaneously with respect to the mating surface, the applicator trailing the recess-forming tool.

Claim 13 (withdrawn): The bead forming apparatus of claim 12 in which the recess-forming tool is configured to form a recess that includes an undercut.

Claim 14 (withdrawn): The bead forming apparatus of claim 13 in which the forming tool comprises a router.

Claim 15 (withdrawn): The bead forming apparatus of claim 12 in which the applicator comprises an extruder head configured to extrude buffer material into the recess and onto the mating surface.

Claim 16 (withdrawn): The bead forming apparatus of claim 12 in which the drive includes a robot having a multi-axis drive system.

Claim 17 (withdrawn): The bead forming apparatus of claim 16 in which the recess-forming tool and applicator are mounted on an arm of the robot.

Claim 18 (withdrawn): The bead forming apparatus of claim 17 in which:
the applicator is movably mounted relative to the recess-forming tool; and
the robot multi-axis drive system is configured move the applicator independent of the recess-forming tool while simultaneously moving the recess-forming tool and the applicator along the mating surface.